

## SEQUENCE LISTING

SEQ ID NO : 1

bmaI1:

ATGCGAACTTTCGTTTCATGGCGACGGGCGCCTGCCGAGCGACTTGGCGGCTG  
ATCTGGGCCTTTATCGGCACGGAGTTT  
CGTCGAGCAGCTCGGCTGGAAACTGCCGTCGGCAAGCGAAGGGTTCGAGCG  
GGATCAGTACGATCGCGACGATACCGTCT  
ATGTGTTTCGCCCCGCGACGACGACGGGGAAATCTGCGGCTGCGCCCGGCTGCT  
GCCGACGACCCGCCCGTATCTGCTGAAG  
GAACTGTTCCCGACGCTGGTCGCGCAAGACATGCCGTTGCCGCAATCCGCCG  
CCGTCTGGGAATTGTCGCGCTTCGCCG  
GAACGCCGAGGATCCGGCCGGGGGCGGCAACCCGGCCTGGGCGGTGCGGCC  
GATGCTCGCCGCCGTCGTCGAGTGCGCCG  
CGCGGCTTGGCGCGAAGCAACTGATCGGCGTGACGTTTCTGAGCATGGAGCG  
CCTGTTCCGCCGGATCGGCGTGACGCG  
CACCGGGCGGGGCCGCGCAGCAGATCGACGGGCGCATGGTCGTCGCGTGCT  
GGATCGACCTCGACGCGCAAACGCTCGC  
CGCGCTCGATCTCGACCCGCTGCTGTGCGCGCCGCCCGCCGAAGCCGCCTGA

SEQ ID NO :2

bmaI3:

ATGTCATACATCATCGCGGGCCGATTGAACGAACTGCCGCCGCACGTCCAGA  
CCGATCTCGGCGCGTATCGCTACGACGT  
GTTTCGTGCGCCGGCTCGGCTGGACGATCGCCGGCCACTCGCTCGACGAACAT  
GCGGAGTGGGACGAGTTCGACGGGCCGT  
CGACGATTCATGTCTGTCGCGCTCGACGACGCGCGAGATCTGCGGCTACGC  
ACGCCTGCTGCCGACGACGGGCCCGTAT  
CTGCTGCGCGACGTGTTTGCGCATCTGCTCGGCTCGTCGCCCCGCGCCGCAATC  
GCCTGCCGTCTGGGAAATGTCGCGCTT  
CGCCGCGTCGCGGCGGCGGCGAAGCGCGACCGAGCGCGAGCCGCTCGGCAT  
GGCGTTCTTTCCGTCGGTGCTCACGGTG  
CCGCGTCGCTCGGCGCGACGCGCGTGGTCGGCGTGATGACGCCATCGATCGA  
ACGCCTGTACCGCCGCTCGGGCATCGCG  
CTGCATCGCCTCGGCAACGCGATGCCGGGCGCGGGCGGCAGCCTGTCCGCAT  
GCTCGATCGATCTGCCGCGCCTCGCGTT  
CGCGCCGTTGGGCCTCAAGCAGTGCGCGGCGTGCTGGCGATGCATTGA

SEQ ID NO :3

bmaR1:

ATGGAAGTTCGCTGGCAAGACGCCTATCTTCAATTTAGCGCCGCGGAGAACG  
AGCAGCAGCTCTTCCAACAGATCGCCG  
GTATACGAAGCGGCTCGGCTTCGAATATTGCTGCTATGGCATAACGCGTGCCGT  
TGCCGATCTCGAAGCCGGTTCGTCGCGA

TTTTCGACACCTATCCGAACGGCTGGATGGAGCGCTACCAGGAAATGAACTA  
 CCTGGAGGTCGATCCGACCGTACGCGAG  
 GGCGCGCTCAGCTCGAACATGATCGTCTGGCCGGAGGCGAGCGCGAGCGAC  
 GCGACGACGCTCTGGAGCGACGCGCGCGA  
 TCACGGGCTGGCGGTCTGGCGTCGCGCAGTCGAGCTGGGCCTCGCGCGGGGTG  
 TTCGGTCTCCTGACGATCGCGCGGCACA  
 CGGACCGCCTGACGTCCGCCGAGATCAACCATCTGACGTTGCAGGCGAACTG  
 GCTCGCGAACATGTGCGCACTCGCTGATG  
 AGCCGTTTTCTCGTGCCGAAGCTCGCGCCCGAATCGGGCGTGGCGCTCACGC  
 ACCGCGAGCGGGAGGTGCTGTGCTGGAC  
 GGGAGAGGGCAAGACCGCGTGCGAGATCGGGCAGATCCTCAGCATCTCCGA  
 GCGCACGGTGAACTTTCACGTCAACAACA  
 TCCTCGACAAGCTCGGCGCGACGAACAAGGTGCAGGCCGTCTGTAAGGCGAT  
 CGCGATGGGGCTCATCGACGCGCCGTAA

SEQ ID NO :4

bmaR3:

ATGTCATACATCATCGCGGGCCGATTGAACGAACTGCCGCCGCACGTCCAGA  
 CCGATCTCGGCGCGTATCGCTACGACGT  
 GTTCGTGCGCCGGCTCGGCTGGACGATCGCCGGCCACTCGCTCGACGAACAT  
 GCGGAGTGGGACGAGTTCGACGGGCCGT  
 CGACGATTCATGTCTGTCGCGCTCGACGACGCGCGCGAGATCTGCGGCTACGC  
 ACGCCTGCTGCCGACGACGGGCCCCGTAT  
 CTGCTGCGCGACGTGTTTGCGCATCTGCTCGGCTCGTCGCCCCGCGCCGCAATC  
 GCCTGCCGTCTGGGAAATGTCGCGCTT  
 CGCCGCGTCGCGGCGGCGGCGAAGCGCGACCGAGCGCGAGCCGCTCGGCAT  
 GGCGTTCTTTCCGTCTGGTGCTCACGGTGG  
 CCGCGTCGCTCGGCGCGACGCGCGTGGTTCGGCGTGATGACGCCATCGATCGA  
 ACGCCTGTACCGCCGCTCGGGCATCGCG  
 CTGCATCGCCTCGGCAACGCGATGCCGGGCGCGGGCGGCAGCCTGTCCGCAT  
 GCTCGATCGATCTGCCGCGCCTCGCGTT  
 CGCGCCGTTGGGCCTCAAGCAGTGCGCGGCGTGCCTGGCGATGCATTGA

SEQ ID NO :5

bmaR4:

ATGCCGTTGCCGATCCGCTGTGGCGAAGGGCCGTGCCCGCAGCAGCGCGGTG  
 CGCCGCGTGCGGCCCGTCGCCCCGTCGAG  
 AACGCTACGTTCGGCGACGAGACCGGGGGCGCCGCGTGCGCGGACGGTCTTG  
 CGGGCATGTCCTGTTTCGATCGTCGGCCG  
 ACGCTTGCGTCGTGCGTGTCGAGTCCGCCGACAATCACCCGCAGCGGTCTTC  
 AGCGGTCTTTCGGCGCGCGACGCCTGGC  
 CCGCCATGCGTACGAGGGCGCATGGCGCAGCATGTTTCGCGGCCTGCCGGGGC  
 GGCGTCGAGCGTGCGCGGCGGCAGCCGT  
 GATGCAGGTGTGGCCGGCGCGCGCGGGATTTCGAGCGATGCTCGAGCGCCGA  
 GCGCCGGTTCGGCTTCGGCGCAGGCGGCC

GATTGTCCCGCCGCGTTCGACGAAACGAACGGCGTGCCGTGCTTCGGCGGCG  
CGGCAGGCAAGCTCGCCGGCGTTTCGCC  
GCGCGCGGGCCGCGGTTGCCCTCTCGCCCCTTTCGAGCACGCTTCTTCATTG  
GTTTCGCTAACGTAACTTCCTCACTTGA  
GCTGGGCGGTTCTATGTTCTGAAGGCTTGTCATTGGTTCGTTTAACGAAATTC  
TGAACGCGACTTGCAAGAAGAGCCTCT  
TTGAGCAGACGGCGTATCAC

SEQ ID NO:6

bmaR5:

ATGAGGGCGGCGATGGGGAACTGGGCGGAGGATCTGCTGGCGGGGCTCGAC  
AGCGCACGATCCGAGGAAGAGGCGTTTCG  
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CTGCGCGTGCCGTGGCCGCTGTCCAGGC  
CGCGCATCGAGACGCGCAGCAACTTTCCCGAGCAATGGAAGCGGCGCTACGT  
CGAGGCGGGTTTCCTCGATGTCGATCCG  
ATTCTCGCGCACGGCCGCGATCGCAGCAACCGGTCGTCCTCGCCGAGACGC  
TGTTTGCGTCCGCGCACCAAGATGTGGGT  
CGAGGCGCAGTCGTTCTGGGTTGCGGTTCTGGGCTGGGCGCAGTCGAGCTTCGAC  
GCGTATGGCGGCATGGGCATGCTCGCGC  
TCGTCCGCTCGCGCGAGCCGGTGACGGCGGCGGAACTCGACGCGAAGGAGT  
ACCGGATGCGCTGGCTCGTGCGCACCGCG  
CACGCCGCGCTCGGCCGCGATGATGTTGCCCAAGCTGATGGCGGACCCGGAGC  
GCGGGCTGACCGAGCGCGAGGTCGAGGT  
GCTCAAGTGGGCGGCGGACGGCAAGACGTCCGGCGAGATCTCGAAGATCCTC  
GCGATATCCGTCGATACGGTGAATTTCC  
ACGTGAAGAACGCGATCCTGAAGCTCAGGACGGCGAACAAGACGGCGGCGCG  
TCGTGCGCGCGGCGATGCTCGGGTTGCTG  
AGCTGA

SEQ ID NO:7

bpmI1:

ATGCGAACTTTCTGTTTCATGGCGACGGGCGCCTGCCGAGCGACTTGGCGGCTG  
ATCTGGGCCTTTATCGGCACGGAGTTTT  
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GGATCAGTACGATCGCGACGATAACCGTCT  
ATGTGTTCCGCCGCGACGACGACGGGGAAATCTGCGGCTGCGCCCGGCTGCT  
GCCGACGACCCGCCCGTATCTGCTGAAG  
GAACTGTTCCCGACGCTGGTCGCGCAAGACATGCCGTTGCCGCAATCCGCCG  
CCGTCTGGGAATTGTCGCGCTTCGCCGC  
GAACGCCGAGGATCCGGCCGGGGGCGGCAACCCGGCCTGGGCGGTGCGGCC  
GATGCTCGCCGCCGTCGTCGAGTGCGCCG  
CGCGGCTTGCGCGCAAGCAACTGATCGGCGTGACGTTTCTGAGCATGGAGCG  
CCTGTTCCGCCGGATCGGCGTGACGCG  
CACCGGGCGGGGCCCGCGCAGCAGATCGACGGGCGCATGGTCGTCGCGTGCT  
GGATCGACCTCGACGCGCAAACGCTCGC

CGCGCTCGATCTCGACCCGCTGCTGTGCGCGCCGCCCGCCGAAGCCGCCTGA

SEQ ID NO:8

bpmI2:

ATGATCGATACGACCGTCATAAGCGCCGCGCAACTGGATTCCACCGTCAAGG  
CAGCACTCGGCAATTATCGTCGGGCGAT  
ATTCATCGAGAACTCGGCTGGCCATTGCCGTTGGTCGACGGGCTCGAGATC  
GATCAGTTCGATCGTCCCGATACGATT  
ACGTGGTTCGGCAAAACAGAGTCCGGCGATATCTGCGGATGCGCCCGCCTGCT  
GCCACGACGAGGCCCTACCTGCTCGGC  
GAGGTGTTCCCCGATCTGATGGGCGACGCGGCCGCCCTGCTCGGCGCACG  
TGTGGGAAATCTCGCGATTTTCGTCTTC  
GATCCTCTCCGGAGGGCCGGACGCGCTGCGGCAGGCTCACCGCAATACGCGC  
ATCCTGCTCGCGAAAATCGTCCGCTTTG  
CGCAGGCGGCCGGCGTGAAGCGGCTGATCACCGTTTCGCCGCTCGCAGTCGA  
GCGGCTGCTCAACCGTCTGAAAGTCCAT  
ATTCACCGCGCGGGTCCGCCTCGGTTGATCGACGGCAAGCCGGTGTTCGCGT  
GCTGGATCGAGGTGGACGACATCACGCT  
CCAAGCGCTCGACATCGAGCCGGCCGCCGATTTCGGCCGCCGGCGCGCTGCGC  
CATTCGTGA

SEQ ID NO:9

bpmI3:

ATGTCATACATCATCGCGGGCCGATTGAACGAACTGCCGCCGCACGTCCAGA  
CCGATCTCGGCGCGTATCGCTACGACGT  
GTTTCGTGCGCCGGCTCGGCTGGACGATCGCCGGCCACTCGCTCGACGAACAT  
GCGGAGTGGGACGAGTTCGACGGGCCGT  
CGACGATTCATGTCTGTCGCGCTCGACGACGCGCGAGATCTGCGGCTACGC  
ACGCCTGCTGCCGACGACGGGCCCGTAT  
CTGCTGCGCGACGTGTTTGCGCATCTGCTCGGCTCGTCGCCCGCGCCGCAATC  
GCCTGCCGTCTGGGAAATGTCGCGCTT  
CGCCGCGTCGCGGCGGGCGGCGAAGCGCGACCGAGCGCGAGCCGCTCGGCAT  
GGCGTTCTTTCCGTCGGTGCTCACGGTGG  
CCGCGTCGCTCGGCGCGACGCGCGTGGTCGGCGTGATGACGCCATCGATCGA  
ACGCCTGTACCGCCGCTCGGGCATCGCG  
CTGCATCGCCTCGGCAACGCGATGCCGGGCGCGGGCGGCAGCCTGTCCGCAT  
GCTCGATCGATCTGCCGCGCCTCGCGTT  
CGCGCCGTTGGGCCGCAAGCAGTGC GCGGCGTGCTGGCGATGCATTGA

SEQ ID NO:10

bpmR1:

ATGGAAGTTCGCTGGCAAGACGCCTATCTTCAATTTAGCGCCGCGGAGAACG  
AGCAGCAGCTCTTCCAACAGATCGCCG  
GTATACGAAGCGGCTCGGCTTCGAATATTGCTGCTATGGCATAACGCGTGCCGT  
TGCCGATCTCGAAGCCGGTTCGTGCGCA

TTTTCGACACCTATCCGAACGGCTGGATGGAGCGCTACCAGGAAATGAACTA  
CCTGGAGGTCGATCCGACCGTACGCGAG  
GGCGCGCTCAGCTCGAACATGATCGTCTGGCCGGAGGCGAGCGCGAGCGAC  
GCGACGACGCTCTGGAGCGACGCGCGCGA  
TCACGGGCTGGCGGTCTGGCGTCGCGCAGTCGAGCTGGGCCTCGCGCGGGGTG  
TTCGGTCTCCTGACGATCGCGCGGCACA  
CCGACCGCCTGACGTCCGCCGAGATCAACCATCTGACGTTGCAGGCGAACTG  
GCTCGCGAACATGTCGCACTCGCTGATG  
AGCCGTTTTCTCGTGCCGAAGCTCGCGCCCGAATCGGGCGTGGCGCTCACGC  
ACCGCGAGCGGGAGGTGCTGTGCTGGAC  
GGGGGAGGGCAAGACCGCGTGCAGATCGGGCAGATCCTCAGCATCTCCGA  
GCGCACGGTGAACTTTCAGTCAACAACA  
TCCTCGACAAGCTCGGCGCGACGAACAAGGTGCAGGCCGTCTGTAAGGCGAT  
CGCGATGGGGCTCATCGACGCGCCGTAA

SEQ ID NO:11

bpmR2:

ATGGAGATGCACGACTTTCTTCAATTTTGGCTAAACGAATTTTCACGCAGTGA  
GAACCCACAGCACGTCAATTTCCGTCTT  
GACCCGCGCGGCCGCGACGCTCGGCTACGAATACGCCGCCTACGGCATGCGC  
CGCCCCTTTCCGATCAGCAATCCGCCGA  
TCCTCATGGTGTCCAATATCCCGCCCGATGGCAGGAACGCTATATCGAAGC  
GCGATTTCGCGAACATCGACGGCGCGGTG  
AAGGCCGCGCTCGGCAGCGACCGGCCCGTGACCTGGAGCGCGCCCGCCAAC  
GCATCGAAAAGCGCATTCTGGGCGGAGGC  
GCTGTCTGTTCCGCATCGCCACGGCTGGTCTCGCGTCGCGGGGCGCGGAC  
GGCGCGATCGGCGTGCTGACGCTGTCTGA  
GAACGCAGGACCCGATCGACACCGCGGAGAAGTTTCGCAACGAGAGCATCG  
TGCACTGGCTCGCCAATGTCGCTCATGCG  
TCGATGGCGCCGTTCTTGCCCGCCGCGACGAGTTCGATCCGGACCTCACGC  
GCCGCGAGACCGATGTGCTGAAATGGAC  
GGCCGACGGAAAGACAGCGTACGAAATCGCGCTGATTCTCAGCATCTCGGAG  
AGCACCGTCAATTTTCAGTGAAGAATA  
TCGTCTCCAAGCTGGGCTCCACGAACAAGATACAGGCCGTGGCCAAGGCCGC  
GCTGATGGGGATGCTGTGA

SEQ ID NO:12

bpmR3:

ATGCTCTCCGCCGCGTTGCCGGAATCGCGCGACGTCCGCACGCTGGTCGAGA  
CTTTCAGGCAGGCGGCGCTGCAGATCGG  
CTACCAGCACCATGCGATCGTCGAGCTGTGGGCGCATCGCATCCGGCGTCTG  
ATCGACGTCGTCTCGCTGCACTATCCGT  
CCGAGTGGGTCGAGCACTACACCCGCAACGACTACTTCGCGATCGATCCCGT  
CCATCGCGCGGCATTCCGCTACAGCACG

CCGTTCTCGTGGAACGACGTCGCGACGGCGAACCTGCGCGAGCGGCATCTGC  
TGATGGAAGCCGAGGACGCGGGCCTCGA  
CAACGGCATCAGCATCCCGCTGCATCAGCCGCTCGGACGCGTGCTGCTGGTG  
AGCCTGTCCGGCACCGCGCCGACGCACG  
ATGCCGATGCGAAATGGCGCAACGCGTACCTGCTCGGCATGCAGTTCAATCT  
GCAGTTCCAGAGCATGCGCACGTGCCG  
CCGATTCCGCCGTCCGTCCACCTGACGGATCGCGAACAGATGTGCCTCACGT  
GGGTCGCGCGCGGCAAGTCGTCGTGGGT  
CATCGCGAACATGCTCGACATCTCCAAATACACGGTCGACTTCCACATCGAG  
AACGCGATGGAGAAGCTCAACACGCGCA  
GCCGCACGTTGCGCGCCGTGAAGGCGACGCGGCAGGGGCTCATCTTTCCATG  
A

SEQ ID NO:13

bpmR4:

ATGGCGCGAACGCGCCGAGGGGCAAGCGAATCGCGCCGACGCGCGCGCGCC  
GGCGCGATAGCCGCGCGACCTGCGTTCCG  
CGCCCGCCGCACAGGCGGGTCGCCGCGCGGTCGCGCGCAACCGCTTGCGCGC  
GGCGGCGGCGCGCGCTCAGATCAACCCG  
CGCGCCGATGCGATGACGACCGCCTGCGCGCGGTTGTTGCGGCCTATCTTGC  
GTGCGGCGTTGACAGATGAAACACGAC  
CGTGCGCTCCGAGATGCCGAGAATCTTCGAGATTTCCACGCCGTCTTGCCGC  
GCCCCGCCCACTGCAGCGATTGCGCGT  
CGCGCGCGGTCAGATCGCACGAGCCCTGCCGTCTGAGCCGGCAATCGAGCAG  
CTCGTGATCGCCGCGTGACGAAGCTC  
GCGAGCAACTGCGACAGGCTCAGCAGCCGACGATATGTCGCTCGCGTCGTGCT  
CGAACGGATCGTCGGTCGCCATGCTGAG  
CATGCTGATCGCGCCGCTGCGATCGTGAACGGGGCAACTGAGCCCGTAGACG  
AGGCCGTACGATTTGCGCTCGTCGCGCA  
TGAGCTTCGCGCGGCTGGTCGTATAGAGGTCGTCGTGCCAGATGAGCGGCAC  
GGTCCGGCACCGGCAATGCTGAACGACG  
GGATCGATCGACAGGTAGTCGGCGGCGTCGTAGCGCAGCCGCCACTCGGCCG  
GAAATCCGTCGAGCATGCAGCGGCTCGA  
CGCCGCGCCGGAGATCTGATGCCGGTACGCGAAATTCTTGAAGCCCAGTTGG  
CGAACGTGATACGCCGTCTGCTCAAAGA  
GGCTCTTCTTGCAAGTCGCGTTCAGAATTTGTTAAACGAACCAATGGACAA  
GCCTTCGAACATAGAACCGCCCAGCTCA  
AGTGA

SEQ ID NO:14

bpmR5:

ATGAGGGCGGCGATGGGGAACTGGGCGGAGGATCTGCTGGCGGGGCTCGAC  
AGCGCACGATCCGAGGAAGAGGCGTTTCG  
AAGCGTCGAAACCGCGGCGGCGGCTCGATTTCAATACTGCGCATACGGG  
CTGCGCGTGCCGTGGCCGCTGTCCAGGC

CGCGCATCGAGACGCGCAGCAACTTTCCCGAGCAATGGAAGCGGCGCTACGT  
 CGAGGCGGGTTTCCTCGACGTCGATCCG  
 ATTCTCGCGCACGGCCGCCGATCGCAGCAACCGGTCGTCCTCGCCGAGACGC  
 TGTTTGCGTCCGCGCACACAGATGTGGGT  
 CGAGGCGCAGTCGTTCTGGGTTGCGGTTCTGGCTGGGCGCAGTCGAGCTTCGAC  
 GCGTATGGCGGCATGGGCATGCTCGCGC  
 TCGTCCGCTCGTGCGAGCCGGTGACGGCGGGCGGAACCTCGACGCGAAGGAGTA  
 CCGGATGCGCTGGCTCGTGCGCACCGCG  
 CACGCCGCGCTCGGCCGCATGATGTTGCCCAAGCTGATGGCGGACCCGGAGC  
 GCGGGCTGACCGAGCGCGAGGTCGAGGT  
 GCTCAAGTGGGCGGCGGACGGCAAGACGTCCGGCGAGATCTCGAAGATCCTC  
 GCGATATCCGTCGATACGGTGAATTTCC  
 ACGTGAAGAACGCGATCCTGAAGCTCAGGACGGCGAACAAGACGGCGGCCG  
 TCGTGCGCGCGGCGATGCTCGGGTTGCTG  
 AGCTGA

SEQ ID NO:15

bmaI1:

MRTFVHGDGRLPSDLAADLGLYRHGVFVEQLGWKLPSASEGFERDQYDRDDTV  
 YVFARDDDDGEICGCARLLPTTRPYLLK  
 ELFPTLVAQDMPLPQSAAVWELSRFAANAEDPAGGGNPAWAVRPMLAAVVEC  
 AARLGAKQLIGVTFLSMERLFRRIGVHA  
 HRAGPAQQIDGRMVVACWIDLDAQTLAALDLDPLLCAPPAEAA

SEQ ID NO:16

bmaI3:

MSYIIAGRLNELPPHVQTDLGAYRYDVFVRRLGWTIAGHSLDEHAEWDEFDGPS  
 TIHVVALDDAREICGYARLLPTTGPY  
 LLRDVFAHLLGSSPAPQSPAVWEMSRFAASRRRRSATEREPLGMAFFPSVLTVA  
 ASLGATRUVGVMTPSIERLYRRSGIA  
 LHRLGNAMPGAGGSLSACSIDLPRLAFAPLGLKQCAACLAMH

SEQ ID NO:17

bmaR1:

MELRWQDAYLQFSAAENEQQLFQQIAAYTKRLGFEYCCYGIRVPLPISKPVVAIF  
 DTYPNGWMERYQEMNYLEVDPVRE  
 GALSSNMIVWPEASASDATTWSDARDHGLAVGVAQSSWASRGVFGLLTIA RH  
 TDRLTSAEINHLTLQANWLANMSHSLM  
 SRFLVPKLAPESGVALTHREREVLCWTGEGKTACEIGQILSISERTVNFHVNNILD  
 KLGATNKVQAVVKAIAMGLIDAP

SEQ ID NO:18

bmaR3:

MSYIIAGRLNELPPHVQTDLGAYRYDVFVRRLGWTIAGHSLDEHAEWDEFDGPS  
 TIHVVALDDAREICGYARLLPTTGPY

LLRDVFAHLLGSSPAPQSPAVWEMSRFAASRRRRSATEREPLGMAFFPSVLTVA  
 ASLGATRVVGVMTPSIERLYRRSGIA  
 LHRLGNAMPGAGGSLSACSIDLPRLAFAPLGLKQCAACLAMH

SEQ ID NO:19

bmaR4:

MPLPIRCGEGPSPQQRGAPRAARRPSRTLRSATRPGAPRARTVLRACPVRSSADA  
 CVVRVESADNHPQRSSAVFRRATPG  
 PPCVRGRMAQHVRGLPGRRRACAAAAMQVWPARAGFERC SSAERRFGFGAG  
 GRLSRRVRRNERRAVLRRRGRQARRRFA  
 ARGPPLPSRPFRARFLHWFANVTSSLELGGSMEGLSIGSFNEILNATCKKSLFEQ  
 TAYH

SEQ ID NO:20

bmaR5:

MRAAMGNWAEDLLAGLDSARSEEEAFRSVETAAAALDFEYCA YGLRVPWPLSR  
 PRIETR SNFPEQWKRRYVEAGFLDVDP  
 ILAHGRRSQQPVVLAETLFASAHQM WVEAQSFGLRFGWAQSSFDAYGGMGML  
 ALVRSREPVTAAELDAKEYRMRWLVRTA  
 HAALGRMMLPKLMADPERGLTEREVEVLKWAADGKTSGEISKIL AISVDTVNFH  
 VKNAILKLRTANKTAAVVRAAMLGLLS

SEQ ID NO:21

bpmI1:

MRTFVHGDGRLPSDLAADLGLYRHGVFVEQLGWKLPSASEGFERDQYDRDDTV  
 YVFARDDDDGEICGCARLLPTTRPYLLK  
 ELFPTLVAQDMPLPQSAAVWELSRFAANAEDPAGGGNPAWAVRPMLAAVVEC  
 AARLGAKQLIGVTFLSMERLFRRIGVHA  
 HRAGPAQQIDGRMVVACWIDLDAQTLAALDLDPLLCAAPAEAA

SEQ ID NO:22

bpmI2:

MIDTTVISAAQLDSTVKAALGNYRRAIFIEKLGWPLPLVDGLEIDQFDRPDTIYVV  
 GKTESGDICGCARLLPTTRPYLLG  
 EVFPDLMGDAAPPCSAHVWEISRFSSSILSGGPDALRQAHRNTRILLAKIVRFAQA  
 AGVKRLITVSPLAVERLLNRLKVH  
 IHRAGPPRLIDGKPVFACWIEVDDITLQALDIEPAADSAAGALRHS

SEQ ID NO:23

bpmI3:

MSYIIAGRLNELPPHVQTDLGAYRYDV FVRRLGWTIAGHSLDEHAEWDEFDGP S  
 TIHVVALDDAREICGYARLLPTTGPY  
 LLRDVFAHLLGSSPAPQSPAVWEMSRFAASRRRRSATEREPLGMAFFPSVLTVA  
 ASLGATRVVGVMTPSIERLYRRSGIA  
 LHRLGNAMPGAGGSLSACSIDLPRLAFAPLGRKQCAACLAMH



SEQ ID NO:24

bpmR1:

MELRWQDAYLQFSAAENEQQLFQQIAAYTKRLGFEYCCYGIRVPLPISKPVVAIF  
DTYPNGWMERYQEMNYLEVDPVRE  
GALSSNMIVWPEASASDATTLWSDARDHGLAVGVAQSSWASRGVFGLLTIARH  
TDRLTSAEINHLTLQANWLANMSHSLM  
SRFLVPKLAPESGVALTHREREVLCWTGEGKTACEIGQILSISERTVNFHVNNILD  
KLGATNKVQAVVKAIAMGLIDAP

SEQ ID NO:25

bpmR2:

MEMHDFLQFWLNEFSRSENQHVISVLTRAAATLGYEYAAAYGMRRPFPISNPPIL  
MVSNPYPARWQERYIEARFANIDGAV  
KAALGSDRPVTWSAPANASKSAFWAEALSFGIAHGWSSASRGADGAIGVLTLSR  
TQDPIDTAEKFRNESIVHWLANVAHA  
SMAPFLPAADEFPDLTRRETDLKWTADGKTAYEIALILSISESTVNFHVKNIVS  
KLGSTNKIQAVAKAALMGML

SEQ ID NO:26

bpmR3:

MLSAALPESRDVRTLVETFRQAALQIGYQHHAIVELSGASHPASIDVVS LHYPSE  
WVEHYTRNDYFAIDPVHRAAFRYST  
PFSWNDVATANLRERHLLMEAEDAGLDNGISIP LHQPLGRVLLVSLSGTAPTHDA  
DAKWRNAYLLGMQFNLQFQSMRTCR  
PIPPSVHLTDREQMCLTWVARGKSSWVIANMLDISKYTVDFHIENAMEKLNTRS  
RTFAAVKATRQGLIFP

SEQ ID NO:27

bpmR4:

MARTRRGASESRRSARAGAIAARPAFRARRTGGSPRGRAQPLARGGGARSDQPA  
RRCDDRLRAVVRAYLACGVRQMKHD  
RALRDAENLRDFPRRLAAPRPLQRFALARGQIARALPSEPAIEQLVHRRVHEARE  
QLRQAQQPQYVARVVLERIVGRHAE  
HADRAAAIVNGATEPVDEAVRFRLVAHELRAAGRIEVVVPDERHGPAPAMLND  
GIDRQVVGGVVAQPPLGRKSVEHAAAR  
RRAGDLMPVREILEAQLANVIRLLKEALLASRVQNFVKRTNGQAFEHRTAQLK

SEQ ID NO:28

bpmR5:

MRAAMGNWAEDLLAGLDSARSEEEAFRSVETAAAALDFEYCAYGRLVPWPLSR  
PRIETRSNFPQWKRRYVEAGFLDVPD  
ILAHGRRSQQPVVLAETLFASAHQMWEAQSFGRLFGWAQSSFDAYGGMGML  
ALVRSCEPVTAAELDAKEYRMRWLVRTA  
HAALGRMMLPKLMADPERGLTEREVEVLKWAADGKTSGEISKILAISVDTVNFH  
VKNAILKLRTANKTAAVVRAAMLGLLS.

SEQ ID NO:29

F 5'-CCGCGACGACGACGGGGAAATC-3'

SEQ ID NO:30

R 5'-TCGATCCAGCACGCGACGACCAT-3'

SEQ ID NO:31

F 5'-ATAAGCGCCGCGCAACTGGATTCC-3'

SEQ ID NO:32

R 5'-CAGGATCGCCGTATTGCGGTGAGC-3'

SEQ ID NO:33

F 5'-TCGCGGGCCGATTGAACGAACTGC-3'

SEQ ID NO:34

R 5'-GAGCGACGCGGCCACCGTGAGCAC-3'

SEQ ID NO:35

F 5'-CGGCTTCGAATATTGCTGCTATGG-3'

SEQ ID NO:36

R 5'-GAGAAAACGGCTCATCAGCGAGTG-3'

SEQ ID NO:37

F 5'-AGCGACCGGCCCCGTGACCTGGAG-3'

SEQ ID NO:38

R 5'-CGGCCTGTATCTTGTTTCGTGGAG-3'

SEQ ID NO:39

F 5'-AGACGTCGTCTCGCTGCACTATCC-3'

SEQ ID NO:40

R 5'-ACCCACGTGAGGCACATCTGTTCG-3'

SEQ ID NO:41

F 5'-GGCGTTCGACAGATGAAACACGAC-3'

SEQ ID NO:42

R 5'-GCTCATCTGGCACGACGACCTCTA-3'

SEQ ID NO:43

F 5'-CGCGTGCCGTGGCCGCTGTCCA-3'

SEQ ID NO:44

R 5'-CCGCGCTCCGGGTCCGCCATCAG-3'